



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: CFM56-5B1/2P BYPASS RATIO: 5.7
 UNIQUE ID NUMBER: 3CM020 PRESSURE RATIO (π_{00}): 30.5
 COMBUSTOR: DAC-II
 ENGINE TYPE: TF RATED THRUST (F_{00}) (kN): 133.5

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO _x	SMOKE NUMBER
D _p /F ₀₀ (g/kN) or SN	8.8	80.3	41.7	2.5
AS % OF ORIGINAL LIMIT	44.9	68.1	41.3	11.4
AS % OF CAEP/2 LIMIT (NO _x)			51.6	
AS % OF CAEP/4 LIMIT (NO _x)			61.3	
AS % OF CAEP/6 LIMIT (NO _x)			69.5	
AS % OF CAEP/8 LIMIT (NO _x)			81.6	

DATA STATUS

- PRE-REGULATION
 x CERTIFICATION
 - REVISED (SEE REMARKS)

TEST ENGINE STATUS

- NEWLY MANUFACTURED ENGINES
 x DEDICATED ENGINES TO PRODUCTION STANDARD
 - OTHER (SEE REMARKS)

EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE
 (ANNEX 16 VOLUME II)

CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)
 x OUT OF PRODUCTION (DATE: -)
 - OUT OF SERVICE (DATE: -)

MEASURED DATA

MODE	POWER SETTING (%F ₀₀)	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO _x	
TAKE-OFF	100	0.7	1.320	0.10	0.80	23.30	0.5
CLIMB OUT	85	2.2	1.070	0.10	1.90	16.40	0.3
APPROACH	30	4.0	0.370	3.70	23.10	7.30	0.5
IDLE	7	26.0	0.120	2.90	36.50	4.10	2.1
LTO TOTAL FUEL (kg) or EMISSIONS (g)			473	891	9197	5024	-
NUMBER OF ENGINES				2	2	2	2
NUMBER OF TESTS				4	4	4	4
AVERAGE D _p /F ₀₀ (g/kN) or AVERAGE SN (MAX)				6.8	70.5	37.9	2.1
SIGMA (D _p /F ₀₀ in g/kN, or SN)							
RANGE (D _p /F ₀₀ in g/kN, or SN)				6.2-7.4	66.2-74.7	37.5-38.3	2-2.3

ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS
 STAGE BLEED 0 (% CORE FLOW) AT - POWER SETTINGS

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	98.5-99.7
TEMPERATURE (K)	284.6-292.4
ABS HUMIDITY (kg/kg)	0.0081-0.0115

FUEL

SPEC	Jet A
H/C	1.93
AROM (%)	17.33

MANUFACTURER: CFM International
 TEST ORGANIZATION: GEAE Peebles + Techspace Aero (CFMI)
 TEST LOCATION: Peebles Ohio, USE + Liers, Belgium
 TEST DATES: 01/08/1996-01/09/1996

REMARKS

1. DAC-II Combustor P/N 1968M99G04

Compliance with Fuel Venting requirements: - ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)